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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,459	08/23/2001	Ulf A. Persson	50364-00006USPT	9577

27045 7590 08/24/2005

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EXAMINER	
SINGH, DALZID E	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/935,459	PERSSON ET AL.	
	Examiner	Art Unit	
	Dalzid Singh	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-11* is/are rejected.

7)☒ Claim(s) *6 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/23/01;3/25/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities:

In claim 1, lines 27, there is a period after the phrase "first wavelength band"; period should be at the end of the claim.

Claim 9, line 7-8, recites "...a second wavelength band carrying at least one optical service channel..." and further in line 13, the claim recites "channels carried in said second waveband..." It is unclear if the claim refers to the waveband containing one channel or multiple channels. For the purpose of examination, the waveband containing one channel will be considered.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5 and 9-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold et al (US Patent No. 6,515,777) in view of Mizrahi (US Patent No. 6,002,503).

Regarding claim 1, Arnold et al discloses a node, shown in Fig. 1, in an optical communication network, said node being connected a transmission path (see col. 2, lines 34-44) for carrying multiple traffic data channels including wavelength multiplexed

channels carried in first wavelength band (each of the plurality of WDM signal forms a wavelength band, therefore the plurality of WDM signals can be considered as first wavelength band) and at least one service channel (see col. 3, lines 20-23) associated with said wavelength division multiplexed channels, said node including a set of first filter elements (3) for adding at least one of said wavelength division multiplexed data channel wavelengths to said transmission path and/or dropping at least one of said wavelength division multiplexed channel wavelengths from said transmission path (the first filter element (3) shows that the channels are added or dropped shown by the arrows), an extraction element (17) for dropping said at least one service channel wavelength (supervisory channel) from said transmission path, said extraction element being arranged upstream of said first set of filter elements (the extraction circuit (17) are shown upstream from the first set of filter (3)) and a combining element (19) for adding at least one service channel (supervisory channel) wavelength to said transmission path, said combining element being arranged downstream of said set of first set of filter elements (the combining circuit (19) are shown downstream from the first set of filter (3)), characterized in that said extraction and combining elements (17, 19) are adapted to passively relay said first wavelength band (the WDM signal are not extracted and are relayed to the first set of filter (3)).

Arnold et al disclose the transmission of first wavelength bands such as the WDM signals and one service (supervisory) channel and differ from the claimed invention in that Arnold et al do not disclose the transmission of second wavelength band being separate from said first wavelength band and carrying at least one optical

traffic data channel and further to drop and add, respectively at least one second wavelength band in addition to said at least one service channel wavelength. However, is well known in optical communication system to carry and/or add/drop plurality of wavelengths in an optical transmission system. Mizrahi et al is cited to show such well known concept. In Fig. 2, Mizrahi shows extraction element (60) and combining element (75) to extract and combine second wavelength band (λ_2) in addition to service channel (λ_{SC}). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide additional wavelength band in addition to the service channel, as taught by Mizrahi, to the transmission system of Arnold et al. Since it is well known that some wavelength will travel at greater distances with less transmission loss than other wavelengths, therefore one of ordinary skill in the art would have been motivated to provide additional channel at a particular wavelength so that channels can be transmitted to further locations without the use of additional optical components such as amplifier or regenerators.

Regarding claim 2, the combination of Arnold et al and Mizrahi discloses second wavelength band as discussed above and differ form the claimed invention in that the combination does not disclose that the second wavelength band carries non-wavelength-division-multiplexed traffic channels. However, it would have been obvious to an artisan of ordinary skill in the art to provide the second wavelength band with non-wavelength-division-multiplexed traffic channels. One of ordinary skill in the art would have been motivated to do such in order to carry services related to the system for monitoring purposes.

Regarding claim 3, the combination of Arnold et al and Mizrahi discloses second wavelength band as discussed above and differ form the claimed invention in that the combination does not disclose that the service channel wavelength and said second wavelength band are arranged on the same side of the wavelength spectrum relative to said first wavelength band, wherein said extraction element and said combining element drop and add, respectively all wavelengths on the side of the spectrum containing said service channel wavelength and second wavelength band. However, since filter element filters out a spectrum, therefore it would have been obvious to an artisan of ordinary skill in the art to arrange the wavelength so that they are on the same side of the wavelength spectrum in order to be filtered out. One of ordinary skill in the art would have been motivated to provide the wavelengths on the same side of the spectrum is in order to reduce the number of filter elements needed to filter out multiple wavelengths.

Regarding claim 4, Arnold et al disclose the transmission of first wavelength bands such as the WDM signals and one service (supervisory) channel and differ from the claimed invention in that Arnold et al do not disclose splitting means arranged to receive optical signals from said extraction element and to separate said service channel wavelength from the second wavelength band. However, Mizrahi et al is cited to show such well known concept. In Fig. 2, Mizrahi shows extraction element splitting means (80) arranged to receive optical signals from said extraction element (60) and to separate said service channel wavelength (λ_{SC}) from said second wavelength band (λ_2). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide such splitting mean as taught by Mizrahi to the

transmission system of Arnold et al. One of ordinary skill in the art would have been motivated to do such in order to separate channels into different paths.

Regarding claim 5, Arnold et al disclose the transmission of first wavelength bands such as the WDM signals and one service (supervisory) channel and differ from the claimed invention in that Arnold et al do not disclose coupling means arranged to feed optical signals to said combining means and to couple the service channel wavelength with the second wavelength band. However, Mizrahi et al is cited to show such well known concept. In Fig. 2, Mizrahi shows coupling means (85) arranged to feed optical signals to said combining means (75) and to couple the service channel wavelength (λ_{SC}) with the second wavelength band (λ_2). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide such coupling mean as taught by Mizrahi to the transmission system of Arnold et al. One of rodinary skill in the art would have been motivated to do such in order to transmit two channels into a single path.

Regarding claim 9, Arnold et al disclose an optical communications network, as shown in Fig. 1, for carrying a first wavelength band (each of the plurality of WDM signal forms a wavelength band, therefore the plurality of WDM signals can be considered as first wavelength band) carrying wavelength division multiplexed optical data channels (see col. 2, lines 36-44) and a second wavelength band carrying at least one optical service channel (see col. 3, lines 20-23) associated with said wavelength division multiplexed channels, and including optical nodes connected to a transmission path (see col. 2, lines 34-44), each node having a first set of add/drop elements (3) for

adding and dropping optical data channels carried in said first wavelength band and second add/drop elements (17, 19) for adding and dropping, respectively, channels carried in said second waveband, wherein said second drop element (17) is arranged upstream of said first set of add/drop elements (5) and said second add element (19) is arranged downstream of said first set of add/drop elements (5).

Arnold et al disclose the transmission of first wavelength bands such as the WDM signals and one service (supervisory) channel and differ from the claimed invention in that Arnold et al do not disclose the transmission of second wavelength band being separate from said first wavelength band and carrying at least one optical traffic data channel and further to drop and add, respectively at least one second wavelength band in addition to said at least one service channel wavelength. However, is well known in optical communication system to carry and/or add/drop plurality of wavelengths in an optical transmission system. Mizrahi et al is cited to show such well known concept. In Fig. 2, Mizrahi shows extraction element (60) and combining element (75) to extract and combine third wavelength band (such as λ_2) in addition to second wavelength band (such as λ_{SC}). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide additional wavelength band in addition to the service channel, as taught by Mizrahi, to the transmission system of Arnold et al. Since it is well known that some wavelength will travel at greater distances with less transmission loss than other wavelengths, therefore one of ordinary skill in the art would have been motivated to provide additional channel at a particular wavelength so that channels can be transmitted to further

locations without the use of additional optical components such as amplifier or regenerators.

Regarding claim 10, Arnold et al disclose the transmission of first wavelength bands such as the WDM signals and one service (supervisory) channel and differ from the claimed invention in that Arnold et al do not disclose splitting means arranged to receive optical signals from said second drop element and to separate said second wavelength band from said third wavelength band. However, Mizrahi et al is cited to show such well known concept. In Fig. 2, Mizrahi shows splitting means (80) arranged to receive optical signals from said extraction element (60) and to separate said second channel wavelength band (λ_{SC}) from said third wavelength band (λ_2). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide such splitting mean as taught by Mizrahi to the transmission system of Arnold et al. One of ordinary skill in the art would have been motivated to do such in order to separate channels into different paths.

Regarding claim 11, Arnold et al disclose the transmission of first wavelength bands such as the WDM signals and one service (supervisory) channel and differ from the claimed invention in that Arnold et al do not disclose coupling means arranged to feed optical signals to said second add element and to couple signals carried on said second wavelength band with signals carried on said third wavelength band. However, Mizrahi et al is cited to show such well known concept. In Fig. 2, Mizrahi shows coupling means (85) arranged to feed optical signals to said combining means (75) and to couple the second channel wavelength band (λ_{SC}) with the third wavelength band

(λ_2). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide such coupling mean as taught by Mizrahi to the transmission system of Arnold et al. One of rodinary skill in the art would have been motivated to do such in order to transmit two channels into a single path.

4. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold et al (US Patent No. 6,515,777) in view of Mizrahi (US Patent No. 6,002,503) and further in view of Hutchison et al (US Patent No. 6,687,463).

Regarding claim 7, the combination of Arnold et al and Mizrahi discloses the use multiple wavelength bands and differ form the claimed invention in that the combination does not disclose that the first wavelength band is centered around 1550 nm and the second wavelength band is centered around 1300 nm. However, it is well known to provide wavelength band around 1300 nm and 1550 nm. Hutchinson et al is cited to show such well known concept. In col. 8, lines 55-63, Hutchinson et al disclose the use of wavelength band around 1300 nm and 1550 nm. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide such wavelength range. One of ordinary skill in the art would have been motivated to do such in order to prevent crosstalk between the channels.

Regarding claim 8, the combination of Arnold et al and Mizrahi discloses the use service channels and differ form the claimed invention in that the combination does not disclose that the service channel is carried at 1510 nm. However, the use of service channel in 1510 nm range is well known. Hutchinson et al is cited to show such well

known concept. In col. 15, lines 46-50, Hutchinson et al disclose the use of service channel in the 1510 nm. Therefore, it would have been obvious to an artisan of ordinary skill in the art to provide service channel in 1510 nm range. One of ordinary skill in the art would have been motivated to so such in order to manage optical component operating in 1500 nm range.

Allowable Subject Matter

5. Claims 6 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Blair et al (US Patent No. 6,141,125) is cited to show intra-node diagnostic signal.

Wu et al (US Patent No. 6,545,783) is cited to show optical wavelength add/drop multiplexer.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272--3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DS
August 17, 2005
David Singh